

PCT

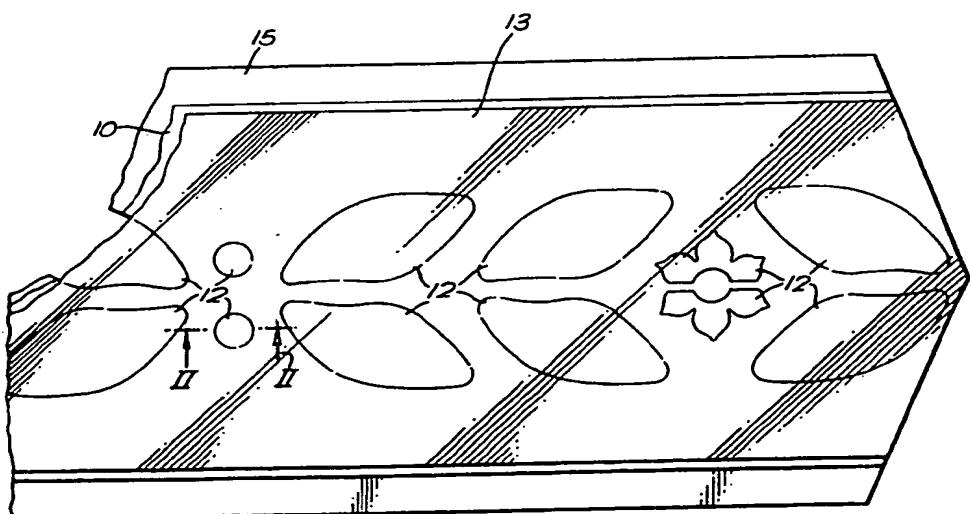
WORLD INTELLECTUAL PROPERTY ORGANIZATION  
International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(54) Title: APPARATUS AND METHOD FOR PROVIDING PATTERNS ON SURFACES



(57) Abstract

An apparatus for producing raised patterns on surfaces, e.g. the surfaces of walls or ceilings, is in the form of a stencil comprising a sheet (10) of material having apertures (12) through which fluent material can be applied to a surface to be treated to produce a desired pattern on the surface characterised in that the sheet (10) is flexible and carries on at least one face a coating of tacky adhesive by which the sheet (10) can be secured to the surface to be treated before and during application of said material and which permits removal of the sheet (10) from the surface after the material has been applied. The method of using the apparatus involves temporarily securing the stencil to the surface by the adhesive, applying a layer of a setting paste-like surface coating material to the stencil to obliterate the apertures (12) therein, and removing the stencil before the coating material has set to leave a raised pattern corresponding to the apertures (12) on the surface.

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TITLE: APPARATUS AND METHOD FOR PROVIDING PATTERNS ON SURFACES

TECHNICAL FIELD

The invention relates to an apparatus and method for providing patterns on surfaces, and particularly but not exclusively to producing raised patterns on the surfaces 5 of the walls or ceilings of buildings.

BACKGROUND ART

It has been known for very many years to apply raised decorative patterns to the walls and ceilings of buildings and in particular it has been known to provide 10 fancy decorative plaster work to the surfaces, both internal and external, of buildings such as houses. The application of such fancy plaster work has involved skilled workmanship, although to some extent the amount of skill required has been reduced in recent times by the 15 use of pre-formed moulded decorations.

DISCLOSURE OF INVENTION

The present invention provides an apparatus and a method for facilitating the production of raised patterns on surfaces.

20 The apparatus of the invention is in the form of a stencil comprising a sheet of material having apertures through which fluent material can be applied to a surface to be treated to produce a desired pattern on the surface characterised in that the sheet is flexible and carries 25 on at least one face a coating of tacky adhesive by which

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the sheet can be secured to the surface to be treated before and during application of said material and which permits removal of the sheet from the surface after the material has been applied.

5 Preferably, the stencil sheet is part of a separable multi-sheet assembly, the other sheets of which protect the stencil sheet before use.

The provision of a coating of tacky adhesive (e.g. a so-called low tack adhesive) enables the stencil sheet to 10 be temporarily secured to the surface to be treated during the process and to be readily removed therefrom without damaging the surface thereafter. The stencil may be in the form of a panel or a strip of a flexible sheet material such as paper or plastics so that for example a 15 frieze can be formed along a wall. The apparatus may also comprise a range of different spatulas by which the coating material is applied to the stencil and thereby to the surface to be treated in a range of different thicknesses.

20 The method of the invention comprises providing a three-dimensional (i.e. raised) pattern on a surface characterised by temporarily securing a stencil as hereinbefore described to the surface by the adhesive, applying a layer of a setting paste-like surface coating 25 material to the stencil to obliterate the apertures therein, and removing the stencil before the coating material has set to leave a raised pattern corresponding

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to the apertures on the surface.

It has been found that by using this method the thickness of the raised pattern can be varied by adjusting the thickness to which the stencil is coated by the surface coating material so that different decorative effects can be achieved. The surface coating material can be of any desired kind for example a plasticised plaster or cellulose based material but is preferably a surface coating material sold under the registered trade marks HANTEK and ALLTEK by International Coating Products (UK) Limited.

#### BRIEF DESCRIPTION OF DRAWINGS

The attached drawings show, by way of example only, one embodiment of apparatus in accordance with the present invention and one form of product made using it.

In the drawings:

Fig. 1 is a plan view of a composite strip or tape containing a stencil sheet in accordance with the invention,

Fig. 2 is a sectional view on an enlarged scale on line II-II of Fig. 1,

Fig. 3 is a sectional view on an even further enlarged scale of the area shown ringed at III in Fig. 2, and

Fig. 4 is a sectional view of a plastered area including embossments.

#### BEST MODE FOR CARRYING OUT THE INVENTION

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In the embodiment of Figs. 1 to 3, a tape assembly comprises a flexible stencil sheet 10 provided on one side (the underside as viewed in Figs. 2 and 3) with a coating 11 of a tacky adhesive (preferably, a so-called 5 "low tack" adhesive). The sheet 10 has apertures 12 shaped and arranged to provide a desired pattern. The sheet 10 is preferably made of strong paper with a gloss upper surface which is covered by a protective, unapertured sheet 13 of transparent plastics film having 10 on its underside a coating 14 of tacky adhesive by which the sheet 13 adheres to the stencil sheet 10. Below the stencil sheet 10 is provided a similarly apertured protective sheet 15 of similar material with a gloss upper surface, to which the adhesive coating on the 15 stencil sheet 10 adheres. The sheet 15 is not itself provided with adhesive.

In use, the sheet 15 is peeled off the stencil sheet 10 to expose its adhesive coating 11, by which it is then secured in the desired orientation on the surface to be 20 treated. During the securing operation, the sheet 10 is stabilised and risk of distortion is minimised by the presence of the protective sheet 13. After the sheet 10 has been secured to the surface the sheet 13 is peeled off to expose the apertures 12 in the sheet 10. Plaster 25 or like material is then applied to the stencil sheet 10 to a desired thickness, which is normally substantially greater than the thickness of the sheet 10. The sheet 10

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is then peeled off the treated surface before the plaster material has set, to leave raised patterns of plaster on the surface, which then set to provide permanent attachments to the surface. Fig. 4 shows, schematically, 5 a cross-section of a product of the present invention, in the form of a sub-strate 19 of plaster, which provides a coating for a ceiling, having raised patterns or embossments 20 which have been applied thereto by the apparatus and method described above.

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#### INDUSTRIAL APPLICABILITY

The invention therefore provides apparatus and a method for producing raised patterns on surfaces, such as those of the walls and ceilings of buildings. Although the invention has been described with particular 15 reference to decorative patterns it can of course be used to apply patterns such as letters and numerals to a surface if so desired. Also the surface coating material could be applied to the stencil by various means e.g. by brush or by spraying to achieve different effects. 20 Depending on the surface coating material which is selected, it can be applied to different surfaces such as plaster surfaces, painted surfaces, wood panelling and so on.

The invention thus provides a simple but effective 25 method and apparatus for applying decorative patterns and the like to surfaces without the need for great skill or complicated or expensive apparatus.

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CLAIMS

1. A stencil comprising a sheet of material having apertures through which fluent material can be applied to a surface to be treated to produce a desired pattern on the surface characterised in that the sheet is flexible and carries on at least one face a coating of tacky adhesive by which the sheet can be secured to the surface to be treated before and during application of said material and which permits removal of the sheet from the surface after the material has been applied.
- 10 2. A stencil according to claim 1 characterised in that the sheet is in the form of a strip.
3. A stencil according to claim 1 or claim 2, characterised in that the stencil sheet is part of a separable multi-sheet assembly, the other sheets of which protect the stencil sheet before use.
- 15 4. A method of providing a three-dimensional pattern on a wall, ceiling or other surface is characterised by temporarily securing a stencil according to any preceding claim to the surface by the adhesive, applying a layer of a setting paste-like surface coating material to the stencil to obliterate the apertures therein, and removing the stencil before the coating material has set to leave a raised pattern corresponding to the apertures on the surface.
- 20 5. A method according to claim 5 characterised in that, before the stencil is removed from the surface, a

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spatula is used to regulate the thickness of the layer of coating material.

6. A method according to claim 5 or claim 6  
characterised in that the thickness of the layer of  
5 coating material is substantially greater than the  
thickness of the stencil.

## AMENDED CLAIMS

[received by the International Bureau  
on 18 September 1989 (18.09.89);  
original claims 1-6 replaced by amended claims 1-4 (2 pages)]

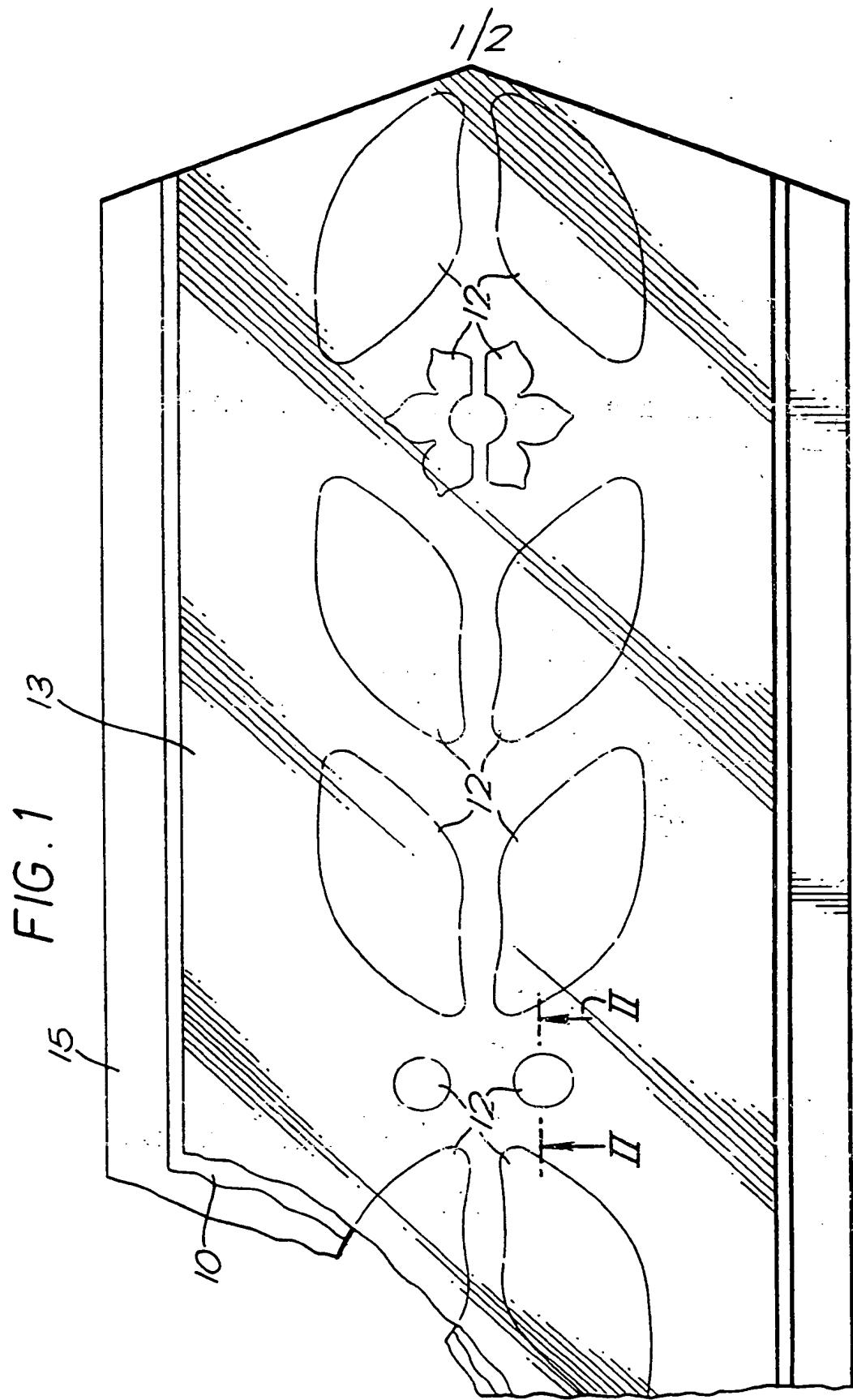
1. A method of providing a three-dimensional pattern on a wall, ceiling or other surface by temporarily securing a flexible stencil sheet to the surface by means of a coating of tacky adhesive on the sheet, applying a 5 setting plaster-like surface coating material to the stencil sheet to contact the surface through apertures in the sheet, and thereafter removing the sheet from the surface to leave a raised pattern on the surface corresponding to the apertures, characterised in that the 10 coating material is applied in the form of a layer which is of substantially greater thickness than the stencil sheet and which passes through the apertures in the stencil sheet into contact with said surface, and in that the stencil sheet is removed from the surface before 15 coating material in the layer has set.

2. A method according to claim 1 characterised in that, before the stencil sheet is removed from the surface, a spatula is used to regulate the thickness of the layer of coating material.

20 3. A method according to claim 1 or claim 2 characterised in that the stencil sheet is, before use, provided with a flexible, unapertured, upper sheet having on its underside a coating of tacky adhesive by which it adheres to the stencil sheet and a flexible lower 25 protective sheet which is apertured similarly to the stencil sheet and to which the adhesive coating on the

stencil sheet adheres, and in that, in use, the lower protective sheet is peeled off the stencil sheet, the stencil sheet is secured by its adhesive coating to the surface to be treated, the upper sheet is peeled off to expose the apertures in the stencil sheet and the layer of 5 coating material is applied.

4. A stencil assembly comprising a flexible stencil sheet having apertures through which setting plaster-like surface coating material can be applied to produce a desired pattern on a surface to be treated and carrying on one face a coating of tacky adhesive by which the sheet can be secured to the surface before and during application of said material and which permits removal of the sheet from the surface after the material has been applied, said stencil sheet having a removable protective sheet secured thereto by tacky adhesive, characterised in that there are provided a flexible, unapertured upper sheet having on its underside a coating of tacky adhesive by which it adheres removably to the stencil sheet and a flexible lower protective sheet which is apertured similarly to the stencil sheet and to which the adhesive coating on the stencil sheet removably adheres.



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FIG. 2

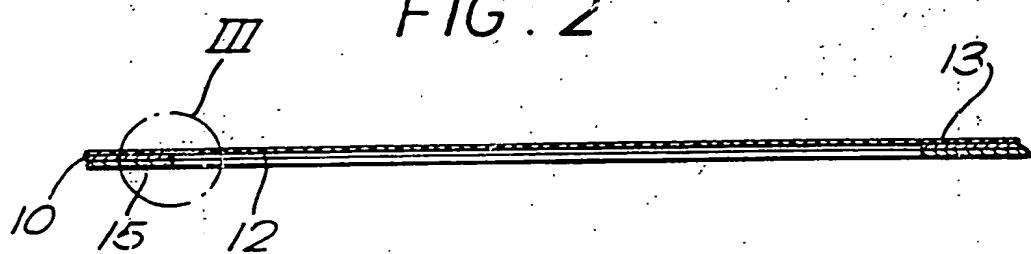


FIG. 3

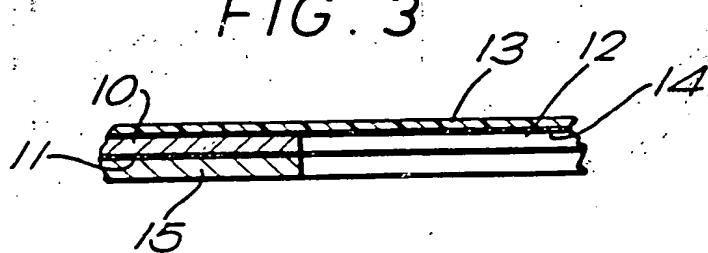
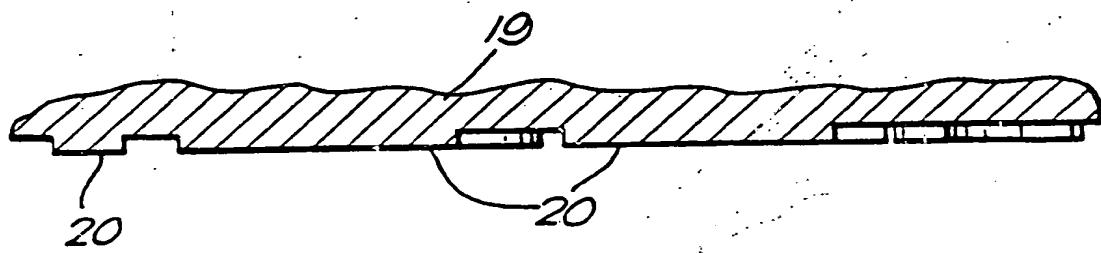


FIG. 4



# INTERNATIONAL SEARCH REPORT

International Application No. PCT/GB 89/00329

## I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) <sup>4</sup>

According to International Patent Classification (IPC) or to both National Classification and IPC

**IPC<sup>4</sup> : E 04 F 21/04, B 05 C 17/06**

## II. FIELDS SEARCHED

Minimum Documentation Searched <sup>2</sup>

Classification System	Classification Symbols
IPC <sup>4</sup>	E 04 F, B 05 C

Documentation Searched other than Minimum Documentation  
to the Extent that such Documents are Included in the Fields Searched <sup>3</sup>

## III. DOCUMENTS CONSIDERED TO BE RELEVANT\*

Category *	Citation of Document, <sup>11</sup> with indication, where appropriate, of the relevant passages <sup>12</sup>	Relevant to Claim No. <sup>13</sup>
X	DE, U, 87/10986 (EIFLER) 24 March 1988 see page 5, line 21 - page 10, line 18; figure	1, 2, 3
X	DE, A, 3607739 (EIFLER) 10 September 1987 see column 2, line 12 - column 3, line 38; figure	1, 2
X	GB, A, 1366343 (NORRIS) 11 September 1974 see page 2, line 45 - page 3, line 44; figures 1,2	1, 3
X	EP,A,0106165 (SYRING) 25 April 1984 see page 4, line 17 - page 9, line 37; figures 1-9	1, 4, 6
A	--	2, 3, 5 ./.

\* Special categories of cited documents: <sup>10</sup>

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"A" document member of the same patent family

## IV. CERTIFICATION

Date of the Actual Completion of the International Search

6th July 1989

Date of Mailing of this International Search Report

JUL 1989

International Searching Authority

EUROPEAN PATENT OFFICE

Signature of Authorized Officer

International Application No. PCT/GB 89/00329

III. DOCUMENTS CONSIDERED TO BE RELEVANT (CONTINUED FROM THE SECOND SHEET)		
Category	Citation of Document, with indication, where appropriate, of the relevant passages	Relevant to Claim No
X	EP, A, 0160315 (HIDEHARU) 6 November 1985 see page 6, line 1 - page 15, line 6; figures 1-6	1, 4, 6
A		3

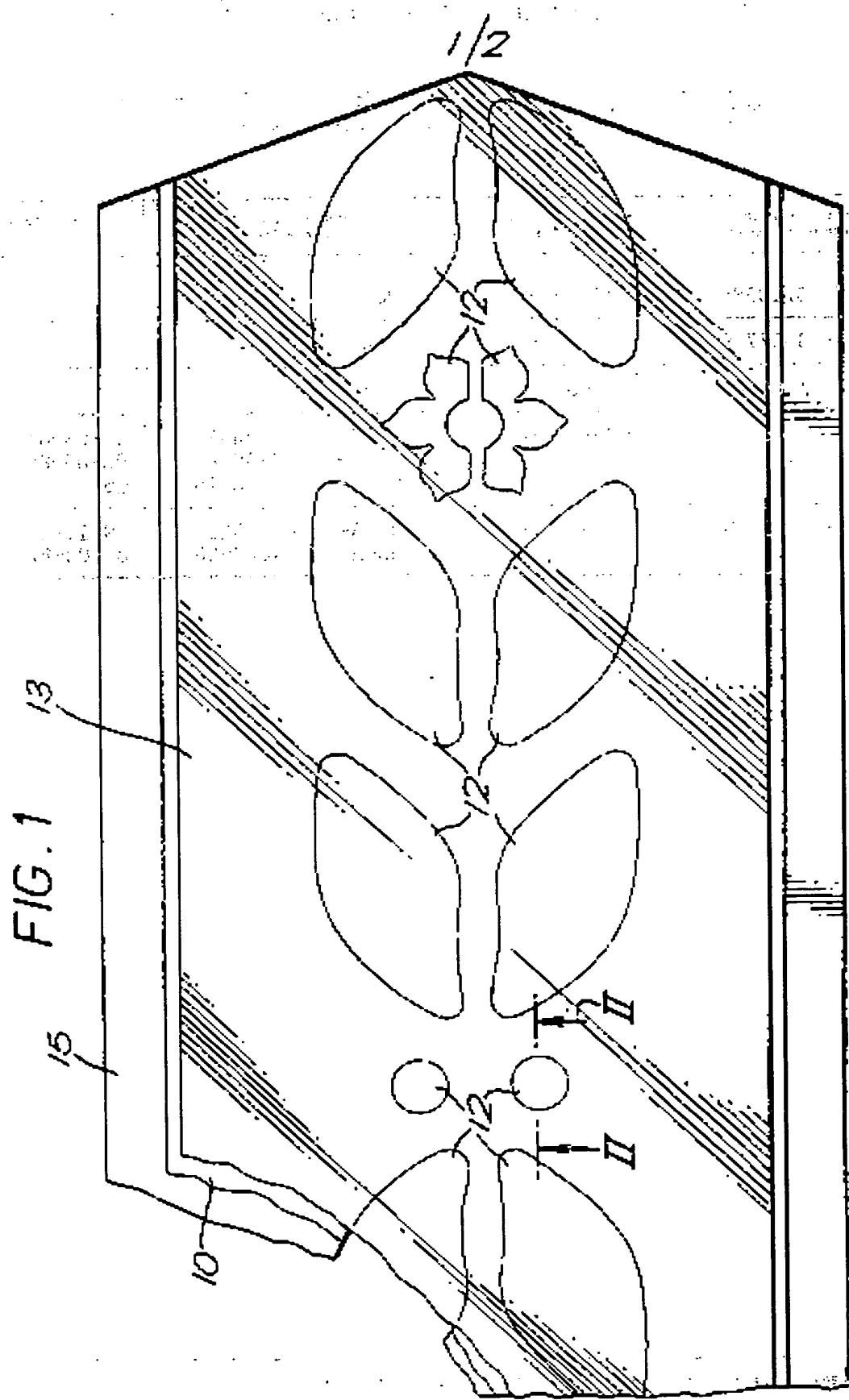
Form PCT ISA 210 (extra sheet) (January 1985)

**ANNEX TO THE INTERNATIONAL SEARCH REPORT  
ON INTERNATIONAL PATENT APPLICATION NO.**

**GB 8900329  
SA 27884**

**This annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report.  
The members are as contained in the European Patent Office EDP file on 18/07/89.  
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Patent document cited in search report	Publication date	Patent family member(s)			Publication date
DE-U- 8710986	11-02-88	None			
DE-A- 3607739	10-09-87	None			
GB-A- 1366343	11-09-74	None			
EP-A- 0106165	25-04-84	DE-C- 3234481 DE-A- 3239761 US-A- 4510729	01-03-84 03-05-84 16-04-85		
EP-A- 0160315	06-11-85	JP-A- 60233264 US-A- 4647000	19-11-85 03-03-87		



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FIG. 2

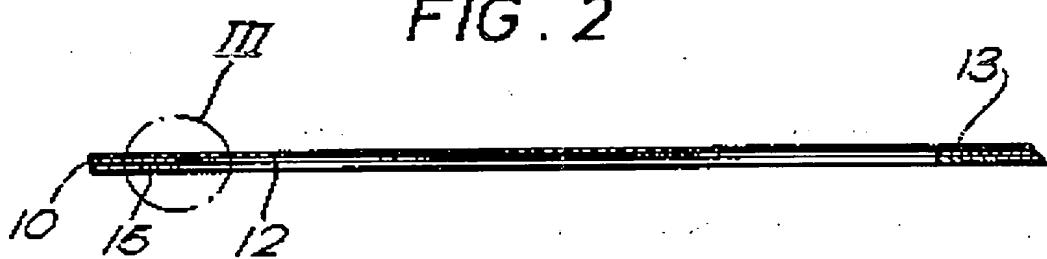


FIG. 3

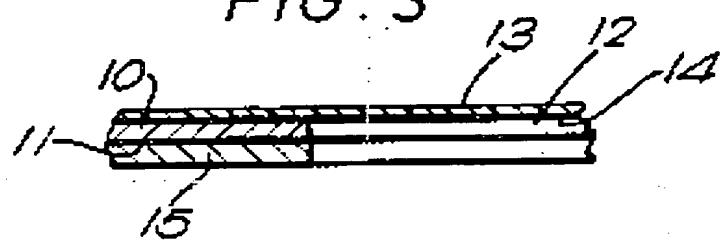


FIG. 4

